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The attitude of nurses towards inpatient aggression in psychiatric care

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Chapter 4

Psychiatric Nurses' Attitudes towards Inpatient Aggression

Preliminary Report of the Development of Attitude Towards Aggression Scale (ATAS)

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in press: Aggressive Behavior

Abstract

Professional skills to adequately manage patient aggression are a prerequisite for nurses working in psychiatric hospitals. These 'technical' skills, however, are necessary but not sufficient for an effective nurse intervention. The nurses' attitude towards client aggression also contributes to their response to the patient's behaviour. In order to study the domains (types) of attitudes towards aggression, a sample was taken of nurses working in the fields of general psychiatry (N=288), psychiatry for children and adolescents (N=242) and psychogeriatrics (N=88). A cross-sectional survey design was adopted for the study. The Attitudes Towards Aggression Scale (atas) consisting of 32 items is presented, representing three types of attitudes towards aggression: aggression as a 'harming' reaction, a 'normal' and a 'functional' reaction. The strongest predictors of the type of attitude respondents had towards the aggressive behaviour of their clients were **1** the field, **2** the setting they worked in, **3** the gender and **4** the type of shifts they predominantly had. Although the measure of domains of nurses' attitudes towards aggression needs further psychometric testing, it can be a useful tool in clinical practice for the assessment of staff attitudes towards aggression. This can support the decision-making about the management of aggressive behaviour on a ward.

keywords: aggression, mental health, attitude, scale

4.1 Introduction

According to a large number of theoretical and empirical studies on violence in psychiatry, the occurrence of violent incidents, as well as their management, has to be regarded as a product of the inter-action of several variables. Among them are patient variables, e.g. psychopathology, (Yesavage, 1983; Swanson *et al.*, 1990; Beck *et al.*, 1991; Oster *et al.*, 2001; Tardiff, 1984), environmental or setting variables, e.g. ward characteristics (Depp, 1976; Bouras *et al.*, 1982; Nijman and Rector, 1999; Bradley *et al.*, 2001; Kumar and Bradley, 2001; Schanda and Taylor, 2001), interactional variables, e.g. adverse stimulation, (Sheridan *et al.*, 1990), and staff variables, e.g. education and attitudes (Schanda and Taylor, 2001). The current study focuses on one of these staff variables: the attitude of nurses towards aggression.

4.1.1 Attitudes towards aggression

There is only limited information about the attitudes nurses have towards aggression. A qualitative study by Finnema (1994) focused on the characterisation of patient aggression by nurses working on psychiatric wards in a Dutch psychiatric hospital. Four categories of definitions emerged from that study: definitions containing a value statement about aggression, definitions describing a manifestation of aggressive behaviour, definitions describing a function of aggression, and definitions describing the consequences of aggression. In three studies by Poster and Ryan, data was collected with 'The Attitudes Toward Patient Physical Assault Questionnaire'. The statements in the questionnaire addressed four components: safety concerns, frequency of assault, staff performance and legal issues. With regard to safety concerns, the majority of respondents disagreed with the statement that it is unacceptable for staff members to protect themselves when being assaulted. With respect to staff performance, the majority disagreed that assault was the result of staff performance deficiency, clinical incompetence and personality traits of the nurse (Poster and Ryan, 1989, 1994; Poster, 1996). Crowner (1994) interviewed inpatients who had been identified as assaulting other patients. The results based on a sample of 40 patients who consented to be interviewed suggested that in most cases some form of provocative behaviour was attributed to the victim. Lanza (1994b) examined the congruence of the accounts of assaultive patients and staff victims concerning assault episodes. There was congruence in at least half of the respective accounts regarding objective information (nursing staff's role, number of people involved in the assault, patient's actions, setting limits and physical contact). There was disagreement in more than half of the accounts for all subjective information examined (quality of relationship, number of patients who tried to intervene, content of patient's speech, effect, cause of the incident, nature of the situation

prior to assault). Gillig (1998) examined attitudes of patients and staff to the causes and emotional impact of verbal and physical aggression and what coercive measures were endorsed. The study revealed that staff were more likely than patients to attribute aggression to intoxication. A majority of staff also saw patient aggression as a learned behaviour rather than associated with psychiatric symptoms or personality disorder. Patients attributed more aggression to staff than the staff did themselves. Whittington (2002) found that staff with more than 15 years experience were significantly more tolerant towards aggression than those with fewer years experience.

4.1.2 Staff variables and the occurrence of aggression

Several staff factors related to the occurrence of aggression on psychiatric wards are reported in the literature. Among them is gender. The conclusions about gender and its associated higher risk of assault are inconclusive. In a study by Carmel and Hunter, male nursing staff were almost twice as likely as female staff to be injured and nearly three times as likely to receive containment-related injuries (Carmel and Hunter, 1989). In contrast, in two other studies no differences were found between male and female nurses and their assault rate (Whittington, 1994; Cunningham *et al.*, 2003).

The impact of education was considered, and a low level of qualification was found to be associated with higher rates of assault (Whittington and Wykes, 1994; Cunningham *et al.*, 2003). In several studies it was found that the more inexperienced staff were, the more they were exposed to assaults (Hodgkinson *et al.*, 1985; Whittington *et al.*, 1996; Cunningham *et al.*, 2003). Cunningham found that an increased number of hours of contact between nurses and patients resulted in more injuries being sustained (Cunningham *et al.*, 2003). Executive staff were most likely to be injured by patient violence (Carmel and Hunter, 1989) and charge nurses and staff nurses were assaulted more frequently than those in the non-assaulted control group (Whittington, 1994).

Studies on the time of day and an increase of aggression showed that most incidents take place in the daytime, then in the evening, with the lowest rate found during the night. Some studies reported that most assaults occurred during mealtimes and early in the afternoon (Carmel and Hunter, 1989; Lanza *et al.*, 1994; Nijman *et al.*, 1995; Vanderslott, 1998; Bradley *et al.*, 2001). Others found an increased rate in the morning (Fottrell, 1980; Hodgkinson *et al.*, 1985; Cooper and Mendonca, 1991). Most of the studies on the effects of staff education and training found that training staff about how to react to threatening situations can lead to a decline in the frequency or severity of aggressive incidents (Infantino and Musingo, 1985; Paterson *et al.*, 1992; Phillips and Rudestam, 1995; Whittington and Wykes, 1996; Rixtel, 1997).

4.1.3 Environmental factors and the occurrence of aggression

In the past research on inpatient aggression was focused primarily upon psychopathology and demographic characteristics (age, gender, race). In the recent years more attention is being paid to aggression and its environmental factors. Environmental factors include the type of ward (ward culture), legal status on admission and the use of restraining interventions. There is considerable agreement in the literature that ward culture (Katz and Kirkland, 1990) and wards with less 'stable' patients (e.g. admission and locked wards) are most often the site of violence (Fottrell, 1980; Hodgkinson *et al.*, 1985; Nijman *et al.*, 1997; Katz and Kirkland, 1990). In several studies it was reported that patients admitted involuntarily under the mental health legislation proved significantly more likely to be engaged in violent acts (James *et al.*, 1990; Powell *et al.*, 1994; Delaney *et al.*, 2001; Owen *et al.*, 1998; Soliman and Reza, 2001). In some studies it is concluded that attacks often occurred when nurses were administering medication or leading or restraining agitated patients (Soloff, 1983; Kalogjera *et al.*, 1989; Wynn, 2003; Morrison *et al.*, 2002).

4.1.4 Theoretical model

In this study, respondents were asked to react (give their opinion) to verbal statements (definitions) of aggression. Their evaluation of the statements about aggression (agree or disagree) was considered as an expression of their attitudes towards aggression. In this study, the assumption was made that sociodemographic and environmental characteristics may have an impact on nurses' attitudes towards aggression. A theoretical model in social psychology which confirms the relationship between attitudes and behaviour is Ajzen's Theory of Planned Behavior (Ajzen, 1991).

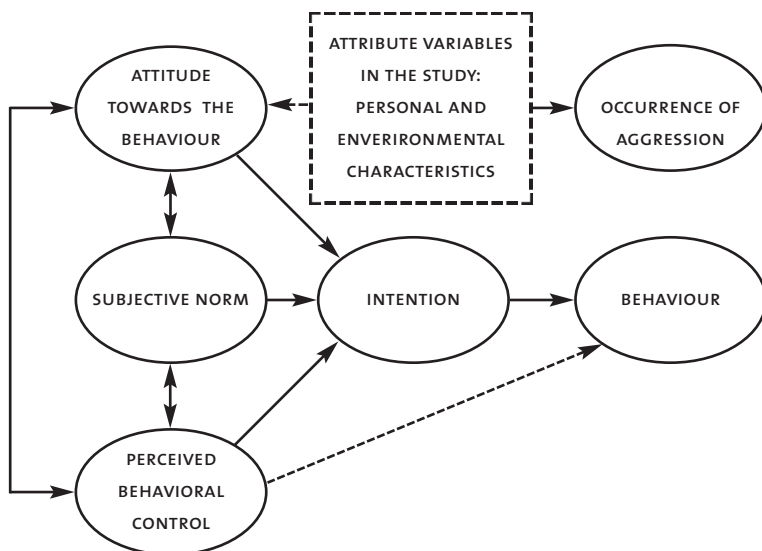


FIGURE 1 THE ATTRIBUTE VARIABLES OF THE STUDY AND THE THEORY OF PLANNED BEHAVIOUR (AJZEN, 1991)

The TPB is an extension of the Theory of Reasoned Action (TRA). The TRA (Fishbein and Ajzen, 1975) is concerned with the ‘causal antecedents of volitional behaviour’. The TPB was designed to predict behaviours not entirely under volitional control by including measures of perceived behavioural control. In the TPB, attitude is a function of the beliefs held about the specific behaviour, as well as a function of the evaluation of likely outcomes. Attitude, therefore, may be conceptualised as ‘the amount of affect – feelings – for or against some object, or a person’s favourable or unfavourable evaluation of an object’. Adler (1983) underscored the importance of attitudes in relation to the evaluation of aggression by saying that the staff’s general attitude towards aggression and violence is a key element in its successful management. Attitudes towards an object can vary from person to person. As Farrell and Gray (1992) pointed out, the person pushing his way to the front of the queue may be seen as aggressive or simply standing up for her or his rights – it all depends on the viewpoint adopted.

In the present study, the personal and environmental factors mentioned in the literature associated with a high risk of aggression were also considered to have an impact on the attitude of nurses towards aggression. It is assumed, for instance, that the length of professional experience will have an impact on the attitude (FIGURE 1).

In this study, an instrument was developed to measure one of the staff variables related to the occurrence of aggression, i.e. the attitudes nurses had towards aggression. The study was based on the following questions:

- 1 what is the attitude of nurses towards inpatient aggression?
- 2 which personal and environmental characteristics of the respondents are the strongest predictors of their attitudes towards inpatient aggression?

The aim of the study was to develop an instrument to measure the attitude towards aggression by care givers that can be used in clinical practice as a tool to monitor the management of the behaviour.

4.2 Methods

4.2.1 Design, sample and procedure

The study used a cross-sectional survey sample approach. Data were obtained by means of a questionnaire. The convenience sample consisted of nurses from three types of wards in five Dutch general psychiatric hospitals, nurses from thirty-three psychiatric hospitals for children and adolescents, and nurses from two hospitals for the demented elderly. The researchers contacted the hospital managers to request participation in the study. The general psychiatric hospitals for adults, children and adolescents were spread over the whole country. The two institutions for the demented elderly were located in the north and south of the country. The inclusion criterion for a ward was that the manager had information from the nursing staff that aggression was a critical issue on the ward. The questionnaires were then mailed to the hospitals and distributed by key persons in the hospitals to all nurses working on the selected wards. Each nurse participating in the study received a package with the questionnaire and a letter explaining the study. After completing the questionnaire, the nurse was requested to return it to the contact person in the hospital in a blank envelope. The anonymous questionnaires were then sent in bulk to the researchers.

4.2.2 Instrument

The instrument used to measure attitudes towards aggression was a self-administered questionnaire consisting of demographic data and 60 statements about aggression (APPENDIX 1). The statements were listed in random order, that is, without any theoretical structure. Of these 60 statements, 46 were selected from a qualitative study on the definition of aggression by psychiatric nurses (Finnema *et al.*, 1994). The other 14 statements were added from reviewed literature. Every statement was given a Likert-type scale ranging from strongly agree (value five), to strongly disagree (value one).

Statistical analysis

The statistical software used was the Statistical Package for the Social sciences (SPSS, version 10). Factor analysis (principal component analy-

sis, rotation method, varimax) was used to identify in which dimensions nurses conceptualised aggression.

According to Nunnally (1994) factor analysis can be used either to test hypotheses about the existence of constructs, or if no credible hypotheses are at issue, to search for constructs in a group of variables. In the former case a confirmatory approach is required, in the latter the exploratory option is more appropriate for the structuring of the data. The explorative option was preferred because the aim of the analysis was not to test existing hypotheses or theoretical rationales about patient aggression, but to develop constructs that would optimally reflect from a semantic point of view the statements made by the respondents.

Only items with an absolute factor loading equal to or more than 0.40 were included in the scales. Internal consistency of the constructed scales was tested by calculating Cronbach's α . The scores of each respondent were transformed into a factor score. A factor score is the weighted sum of the scores of the original variables in which the factor coefficients are the standardised factor loading. Because the distribution of the factor scores appeared to be skewed, nonparametric tests on the mean factor scores (Kruskal-Wallis Test and post hoc tests, Mann-Whitney Test, Bonferroni adjusted) were performed to test whether there were statistically different attitudes between the groups. To answer the second research question about the predictors for attitudes towards aggression, multiple regression analysis was done (method enter) with the attitudes of aggression as the dependent variables, and the significant personal and environmental characteristics as the independent variables.

4.3 Results

4.3.1 Sociodemographics

Of the 762 questionnaires mailed to the participating wards, 618 were returned giving a response rate of 81%. The sample from 5 psychiatric hospitals for adults consisted of 288 nurses, the sample from the 33 psychiatric hospitals for children was composed of 242 respondents and the subsample from the two institutions for the demented elderly contained 88 nurses.

TABLE 1 **SOCIODEMOPGRAPHICS OF THE RESPONDENTS**
FROM THE THREE SECTORS (N=618)

PERSONAL CHARACTERISTICS	N	(%)	ENVIRONMENT. CHARACTERISTICS	N	(%)
GENDER			SETTING		
male	253	41.5	admission	180	31.4
female	356	58.4	short stay	245	42.8
total	609		long stay	148	25.8
EDUCATIONAL LEVEL			total	573	
school of nursing level 1	249	42.3	LEGAL STATUS ON ADMISSION		
hospital based	255	43.4	involuntary	364	67.7
school of nursing level 2	84	14.3	voluntary	174	32.3
total	588		total	538	
WORKING EXPERIENCE			USE OF RESTRAINING INTERVENTIONS		
0-5 years	195	31.6	yes	509	85.8
6-10 years	175	28.3	no	84	14.3
> 10 years	248	40.1	total	593	
total	618				
CONTRACTUAL STATUS					
full time 80%-100%	534	87.5			
part time <80%	76	12.5			
total	610				
POSITION ON THE WARD					
staff	502	83.3			
managers	27	4.4			
mix staff/managers	74	12.3			
total	603				
SHIFTS					
daytime only	79	13.3			
daytime/evening	224	37.6			
day/evening/night	293	49.2			
total	596				
TRAINING AGGRESSION MANAGEMENT					
yes	249	40.4			
no	368	59.6			
total	617				

Most nurses had a hospital-based training (43.4%) or had a level 1 education (42.3%). There are different nursing education systems in the Netherlands. Traditionally, nurses were trained in a general hospital or in a psychiatric hospital. In 1971 the first school of nursing was opened, offering a broad-based training, making it possible for nurses to work in all fields and with every category of patient. This type of education has two levels: level 1 nurses (higher vocational education) are educated to be responsible for all phases of the nursing process; level 2 nurses (secondary vocational education) perform mainly routi-

ne and standard procedural work. In all three sectors the majority of nurses worked full-time (87.5%) and did not hold a management position (4.4%). The majority of nurses (59.6%) were not trained to manage aggression and 85.8% reported that restraining interventions such as seclusion and fixation were not practised on their wards. Nearly all the missing cases for the environmental variable 'legal status on admission' came from the psychogeriatric setting. This item did not apply to the population of demented patients and so the responses should be disregarded (TABLE 1).

4.3.2 Attitudes towards aggression

Factor analysis carried out on the answer to the first research question 'What is the attitude of nurses towards in patient aggression?' produced three attitudes towards aggression. Aggression was labelled as a 'harming reaction', a 'normal reaction' and a 'functional reaction' (TABLE 3). From the original 60 statements in the questionnaire, 37 (62%) were included in the scale. The three factors explained 29% of the total variance. The harming reaction represented the violent and intrusive physical dimension of the concept, which was evaluated as an unacceptable manifestation of aggression. Aggression as a basic human feeling and behaviour is reflected in the attitude towards aggression as a normal reaction. The third attitude was called functional because the items in the scale described aggression as a feeling expressed by patients to meet a particular need.

TABLE 2 PRINCIPAL COMPONENT ANALYSIS OF ATTITUDES TOWARDS AGGRESSION (ATAS)

ITEM	AGGRESSION:	LOADING
<i>HARMING REACTION (N= 556 , RELIABILITY .87)</i>		
1	is hurting others mentally or physically	.67
2	poisons the atmosphere on the ward and obstructs treatment	.57
3	is any action of physical violence	.57
4	is essentially beating up some one else	.57
5	is an impulse to disturb and interfere in order to dominate or harm others	.56
6	is violent behaviour to others and self	.56
7	is an example of a non-cooperative attitude	.54
8	is destructive behaviour and therefor unwanted	.54
9	is a powerful, inappropriate, nonadaptive verbal and/or physical action done out of self interest	.53
10	is threatening to damage others or objects	.53
11	is where someone's behaviour shows that there is intent to harm himself/ herself or others	.53
12	is behaviour the patient knows might cause injury to other persons without their consent	.51
13	is repulsive behaviour	.51
14	is any expression that makes someone else feel unsafe, threatened or hurt	.50
15	is directed towards objects or people	.45
16	active aggression is the threat of being forcefully handled by somebody	.43
17	is the inadequate dealing with feelings of anger	.42

TABLE 2 CONTINUED

ITEM	AGGRESSION:	LOADING
<i>NORMAL REACTION (N= 576, RELIABILITY .82)</i>		
18	aggression is a normal reaction to feelings of anger	.68
19	is a healthy reaction to feelings of anger	.66
20	helps the nurse to see the patient from another point of view	.60
21	is the start of a more positive nurse-patient relationship	.58
22	is a form of communication and as such not destructive	.58
23	is energy people use to achieve a goal	.58
24	will make the patient calmer	.55
25	offers new possibilities in nursing care	.54
26	is an attempt to push the boundaries	.46
27	is an expression of feelings, in the same way as laughter or crying	.46
28	is the protection of one's own territory and privacy	.45
29	is to protect yourself	.42
<i>FUNCTIONAL REACTION (N= 603, RELIABILITY .50)</i>		
30	comes from feelings of powerlessness	.55
31	is a signal asking for a reaction	.46
32	is emotionally letting steam off	.46

The Kruskal-Wallis test was performed to compare the scores of respondents on the three attitudes. Significant test results were followed up with post hoc Mann-Whitney tests for two independent samples. In these tests, the personal and environmental characteristics were the grouping variables.

The factor scores of the three attitudes towards aggression, with regard to three of the personal characteristics (gender, working experience, type of shift) and four environmental variables (sector, setting, legal status, and use of restraining interventions), differed significantly between respondents. The results will be discussed below for the separate attitudes (TABLE 3).

TABLE 3 PERSONAL AND ENVIRONMENTAL CHARACTERISTICS AND FACTOR SCORES ON ATTITUDES

PERSONAL	N	HARMING REACTION	NORMAL REACTION	FUNCTIONAL REACTION
<i>GENDER</i>				
male	253	0.01	0.15*	- 0.15*
female	356	- 0.11*	- 0.11*	0.12*
<i>WORKING EXPERIENCE</i>				
0-5 years	195	- 0.07	- 0.08	- 0.09*
6-10 years	175	- 0.09	0.04	0.09°
> 10 years	248	0.11	0.03	- 0.14* °
<i>SHIFTS</i>				
daytime only	79	- 0.03	0.29*	- 0.02
day/evening	224	0.00	- 0.02	- 0.15*
day/evening/night	293	0.01	- 0.07*	0.11*

ENVIRONMENTAL	N	HARMING REACTION	NORMAL REACTION	FUNCTIONAL REACTION
SECTOR				
general psychiatry	288	0.01*	- 0.01°	- 0.13*
psychiatric hospitals for children	242	- 0.14*	- 0.04*	0.19**
psycho geriatrics	88	0.35**	0.45**	- 0.08°
SETTING				
admission	180	0.03	- 0.08	0.01
short stay	245	- 0.16*	- 0.03	0.11*
long stay	148	0.19	0.16	- 0.15*
RESTRAINING INTERVENTIONS				
yes	509	0.05*	0.00	0.03
no	84	- 0.35*	- 0.02	0.04

*and **post hoc Mann-Whitney test ($p < .02$)

Harming reaction

Factor scores of respondents differed significantly depending on the kind of sector and type of setting they worked in, and whether restraining interventions were used or not. More nurses from the sector psychogeriatric hospitals evaluated aggression as a harming reaction than their colleagues from adult and child psychiatry, (z value - 3.05, $p < .01$; z value - 4.29, $p < 0.01$, respectively). The same applied to nurses from long-stay wards compared to those working on short-stay wards; those working on long-stay wards agreed more with this attitude than the respondents from short-stay settings, (z value - 3.62, $p < 0.01$).

Nurses reporting the administration of restraining interventions on their wards agreed more with this attitude towards aggression than those employed in wards where no seclusion or fixation took place (z value - 3.72, $p < 0.01$).

Normal reaction

Male and female nurses differed significantly in their opinion as to what the attitude towards a normal human reaction was. Compared to their male colleagues, female nurses agreed less with this attitude (z value - 3.70, $p < 0.01$) and only nurses working daytime shifts agreed more with aggression as a normal reaction than nurses working on all types of shifts (z value - 2.83, $p < 0.01$).

Nurses working in hospitals for the demented elderly were more positive about aggression as a normal behaviour than the respondents from the adult and child psychiatric hospitals (z value - 4.68, $p < 0.01$; z value - 4.58, $p < 0.01$ respectively).

Functional reaction

Female nurses were more positive than their male counterparts about statements related to aggression as a functional reaction (z value -3.26 , $p < 0.01$). The most experienced nurses, those with more than 11 years of experience, agreed less often that aggression was 'functional behaviour' than the beginners and nurses with 6-10 years of experience (z value -2.63 , $p < 0.01$; z value 3.0 , $p < 0.01$ respectively). Respondents working on all shifts were more positive than those working on day and evening shifts were about aggression as functional behaviour (z value -3.0 , $p < 0.01$). Respondents from psychiatric hospitals for children were more positive about aggression as a functional reaction than respondents from adult psychiatry (z value -4.51 , $p < 0.01$) and nurses working with the demented elderly (z value -2.73 , $p < 0.01$). The favourable attitude towards aggression as a functional reaction also applied to respondents from short-stay wards compared to those working on long-stay wards (z value -2.84 , $p < 0.01$).

4.3.3 Predictors of the type of attitude

A multiple regression test was performed to test which of the personal and environmental characteristics was most predictive of respondents' attitude towards aggression. Because the variables 'years of working experience', 'setting and sector working in' and 'type of shift' were not continuous variables, dummies of these variables were made to perform the regression analysis.

With respect to the regression analysis of the 'harming reaction' ($N = 555$), the reference group consisted of respondents from general psychiatry, working on short-stay wards, making use of restraining interventions. Respondents who did not restrain patients perceived aggression as less harming than those in the reference group ($\chi^2 = -0.29$, t -value -2.36 , $p = .02$). Respondents working with psychogeriatric patients were more supportive of the harming attitude towards aggression than those in the reference group ($\chi^2 = 0.28$, t -value 2.16 , $p = .03$). The R^2 of this model was 0.05 .

The reference groups for the analysis of the 'normal reaction' were the female nurses, and respondents working in adult psychiatry on day/evening/night shifts. In the analysis of the total sample of respondents ($N = 588$), being a male respondent ($\chi^2 = 0.35$, t -value 4.19 , $p < .01$) or working with psychogeriatric patients ($\chi^2 = 0.62$, t -value 4.95 , $p < .01$) were strong predictors of the attitude that aggression was a 'normal reaction', meaning they approved more than the reference groups of this dimension of aggression. The R^2 of this model was 0.07 .

Female respondents working on short-stay wards with more than 10 years experience in adult psychiatry and working on day, evening and

night shifts were the reference group for the regression analysis of the 'functional reaction' ($N = 546$). Being a male nurse ($\chi^2 = -.21$, $t\text{-value} = -2.30$, $p = .02$) or working in psychiatric hospitals for children ($\chi^2 = .32$, $t\text{-value} = 3.26$, $p = .01$) or working on day and evening shifts ($\chi^2 = -.19$, $t\text{-value} = -2.09$, $p = .04$) were found to be the strongest predictors for the scores on this attitude towards aggression. The R^2 of this last model was 0.06. Male respondents agreed less often than those in the reference group (females) with this dimension, and respondents working with children or adolescents with psychiatric problems identified themselves more often with aggression being a 'functional reaction'. Respondents who worked on day and evening shifts agreed less often with those in the reference group that aggression was a functional reaction.

4.4 Discussion

In this study a measure to assess attitudes towards patient aggression of health professionals in psychiatry was introduced. Explorative factor analysis was used as a method to identify the different types of attitudes since the confirmative alternative was not appropriate in the inductive phase of conceptualization and operationalization of theoretically unknown types of attitudes towards aggression. The interpretation and labeling of the factors (the domains of attitude towards aggression) was not guided by theories on the etiology or on the socio-cultural meaning health professional attribute to particular modes of aggression. The interpretation of the underlying, latent constructs was the result of both a 'scree plot' indicating the 3 factors in the data and a semantic analysis of the items' correlations with a particular factor. This theory-free approach for the identification of the factors was inevitable as there are no theories available on the attitudes of health professionals towards aggression. In the current study the 'theory' was established on the meaning health professionals in psychiatry attribute to aggressive behaviour of patients. Consequently, in case this study would have been replicated by other researchers and their factor analysis revealed an identical three-factor solution as found in this study, they might have labeled these factors with different constructs. This seems to be a weakness, but the items' loadings on each factor, demonstrate that they tap information on aspects belonging to a particular dimension of an attitude towards aggression.

Bearing this in mind, the findings of this study indicate that there are three domains of attitudes towards aggression: the harming, the normal, and the functional evaluation of the behaviour. These attitudes were constructed by labeling three groups of state-

ments taken mainly from the interviews with psychiatric nurses (Finnema *et al.*, 1994), together with some definitions of aggression found in the literature. The labels to denote the three types of attitudes were chosen in such a way that they would cover the underlying items best from a semantic point of view rather than from a theoretical perspective. In the literature, typologies of aggression are mentioned that match the labels developed in this study to a certain extent. Affective aggression is behaviour aimed primarily at injuring the provoking person, and it is accompanied by strong negative emotional states. This type of aggression comes close to what we called 'the harming reaction'. What we labelled the functional reaction could be rephrased instrumental aggression, meaning a person is aggressive not in order to hurt another person but simply as a means to some other end. What we called the normal reaction could be compared to what is called reactive aggression, i.e. reactive in the sense that it is enacted in response to provocation such as an attack or an insult (Geen, 2001). To make a better fit with the qualitative nature of the statements, we have decided to use the labels developed in this study. Whichever label one prefers to choose, 'normal' or 'reactive', respondents appraised aggression not only as affective or instrumental aggressive behaviour with the intent to harm.

This result is important given the assumption made by Fishbein and Ajzen (1975) that attitude influences one's behaviour i.e. the management of aggression. As a consequence, it might be assumed that the nurses' approach to stopping patient aggression is a function of the nurses' attitude. Broers and De Lange (1997) found that the harming attitude of aggression is usually associated with a restrictive way of managing the behaviour with the intention of protecting the patient from damaging himself or others. It may be that respondents who reported that seclusion and fixation were practised on their wards were exposed to physically violent patients more frequently than those who reported that these kind of restrictive interventions were not practised. This could explain the finding in this study that the more often nurses used restraining interventions, the more often they evaluated aggression as harmful. On the other hand, the normal and functional attitudes were related to a more permissive strategy for managing aggression (Broers and De Lange, 1997). This could explain why an underestimate of the true prevalence of aggressive incidents is mentioned in many studies, since aggressive incidents perceived as normal or functional behaviour are not likely to be reported by nurses.

Significant differences were found between the mean factor scores of male and female nurses about the attitude towards aggression corresponding with the normal reaction. More male nurses than their female colleagues considered aggression to be a normal reaction. This is consistent with the findings of other studies which concluded that

aggression is considered as inappropriate by females more often than males (Frodi *et al.*, 1977). However, female nurses approved of the functionality (instrumentality) of aggressive behaviour more than the males. This finding is inconsistent with previous literature in which it was suggested that men, more than women, represent their aggression as an instrumental act aimed at taking control over others, whereas women, more than men, represent aggression as the result of a temporary loss of control over themselves (Campbell and Muncer, 1987).

It was found that nurses from psychogeriatric hospitals approved more often of the harming and normal reaction than the respondents from the other two sectors. These results seem to contradict each other but may be due to the fact that psychogeriatric patients differ from the psychiatric population since respondents, on the one hand, refer to aggressive behaviour of the frail and elderly (normal reaction). On the other hand, they may also be confronted with physical aggression in the psychogeriatric population which is tagged as the harming reaction.

The study showed that the most experienced nurses supported the attitude of aggression as a functional reaction less often than novice nurses. If the position is taken that the functional attitude is the expression of a positive perspective about the phenomenon of aggression, nurses with the most years of experience are more likely to be disappointed about this view than the novices. Nurses from the child psychiatric hospitals had a stronger attitude towards aggression functionality than the respondents working in nursing homes for demented elderly and adult psychiatric hospitals. This finding could be related to the patients nurses cared for in these settings: young children and adolescents. Aggression in this patient population, more than with the adult psychiatric patients and the demented persons, is an expression of showing anger to reach some goal. This finding could be explained by what is known from literature about the way children express their anger. According to Crick and Dodge (1994), children lack the cognitive maturity and communication skills to solve social problems and express needs more competently.

The factorial structure of the ATAS is a three component scale. It is to be used on a group level within inpatient psychiatric settings. This scale offers ward managers, where nurses and other professionals have to deal with aggression, the possibility to monitor and evaluate the attitude they have towards aggressive behaviour. The strongest attitude towards aggression, measured on a ward with the ATAS, should be a reflection of the type of aggression most prevalent on the ward. If patients are frequently physically violent, this should be reflected by the attitude that aggression is 'harming'. If not, this finding should be an issue for the team to discuss.

4.4.1 Study limitations

The proposed scale needs further psychometric testing. The internal validity of all three scales may be evaluated as sufficient; however, more studies with data from larger samples should be carried out to determine whether the factor solution will stay stable under different conditions. The reliability of the instrument should also be tested in future studies. Another limitation of this study relates to the survey sample design. A survey with closed items reveals no information about contextual factors that may influence respondents' attitudes at the time of completing the questionnaire. The personal and environmental variables in this study explained only about one third of the variance. Additional information is required to get a better understanding of the variables that constituted the makeup of the attitude. Information on the past and recent experiences of respondents with aggression, as a point of reference for respondents to complete the items in the questionnaire, should be included in future studies. More information from the interactional point of view is likewise also needed. The use of the ATAS in combination with the Ward Atmosphere Scale (Moos, 1974; Rossberg and Friis, 2003) may serve this purpose.

4.4.2 Acknowledgement

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